

Remarks

[Each of the applicant's comments below is preceded by related statements in the action dated May 5, 2008, quoted in small, bold type.]

Claim Objections

Claims 1 and 27 are objected to because of the following informalities: The word "pattern" on line 7 is misspelled. Appropriate correction is required.

The Applicant has amended claims 1 and 27.

Claim Rejections - 35 USC § 112

Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

• The phrase "substantially insoluble" in claim 18 is rejected, as it is a relative term, which renders the claim indefinite. The term "substantially insoluble" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear as to what is encompassed by the phrase "substantially insoluble"; it is unclear as to what degree of difference is encompassed by this phrase, if "soluble".

Although the applicant disagrees with the examiner, claim 18 has been amended by replacing "substantially insoluble" with --insoluble--. This revision is meant to clarify, but does not change the scope of the claim.

Claim Rejections - 35 USC § 103

Claims 1-8, 10-11, 13, 15-16, and 19-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willcocks et al. (WO 01/94116) in view of Young (6536345).

With regards to claims 1-8, 10-11, 13, 15-16, and 19-40 Willcocks et al. teach a method for printing high-resolution images on an edible substrate. The printing of the image on the edible substrate is accomplished with the use of a drop on demand ink-jet printer that uses food grade ink and is capable of obtaining resolution of greater than 200 dpi. (pg. 6 line 21+) Willcocks et al. further disclose that the edible substrate may be chocolate, or ice cream (pg. 20 lines 9+) and that the image quality and resolution is dependant upon the surface chemistry of the ink and the edible substrate. (pg. 22 line 12+) "Other embodiments according to the invention which can have advantageous effect on image quality include, controlling the surface energy of the chocolate by changing the temperature of the substrate of the ink." (pg. 22 line 12+)

Willcocks et al. further teach that the ink is "water based", (pg. 26 line 10+) or the ink composition may also be substantially "free of water". (pg. 28 line 20+) Willcocks et al.

further teach that the compatibility of the ink with the surface of the edible substrate is critical (pg. 21 line 1+) and that "temperature modulation of the ink cartridge can also be used to advantageously modify or control ink rheology to maximize printing performance." (pg. 22 line 29+) An alcohol may be added to the ink composition as part of the carrier so that the image will dry quickly once printed, (pg. 28 line 24+) and additionally dyes may be present. (pg. 31 line 4+) The image is finally treated by "drying or fixing the image after the printing step." (clm. 20)

Willcocks et al. however is silent with respect to the media having a viscosity greater than a viscosity of the food product at a temperature of the food product during application of the media.

Young teaches an apparatus and a method of printing on edible substrates. More specifically Young teaches high resolution printing e.g. 360x260 dots per square inch (col. 6 line 1 +) on edible substrates of various viscosities, such as, boiled sugar, ice cream and water (col. 6 line 6+).

Therefore with respect to claim 1, although Willcocks et al. does teach the limitation "the media having a viscosity greater than a viscosity of the food product at a temperature of the food product during application of the media" Willcocks et al. do teach applying media to confections where confections are known to one of ordinary skill in the art to include "sweet" foods such as boiled sugar and hot chocolate and thus since Young not only teaches high-resolution printing on edible substrates such as ice cream and confections, as is also taught by Willcocks et al., but Young further teaches printing on water, and boiled sugar specifically and obtaining a high resolution image. Therefore since Young specifically teaches printing on edible substrates, where the viscosity of the edible substrate can range from solid at room temperature or highly viscous, all the way to a minimally viscous substrate such as water, one of ordinary skill in the art at the time of the invention by the applicant would have been motivated to combine the teachings of Willcocks et al. and Young in order to provide decorated edible substrates of different viscosities thus producing an edible substrate which would be more appealing to a larger group of people, in particular children, due to its increased aesthetic appeal.

With regard to claims 2-4 and 29-30 although Willcocks et al. do not disclose specifically treating the ice cream by cooling and/or freezing to a specific temperature, Willcocks et al. do teach that the image is treated by "drying or fixing the image after the printing step", (clm. 20) and further disclose the use of ice cream as the edible substrate (pg. 20 lines 9+). Since the reference states that the edible substrate is ice cream and that the edible substrate is treated by "fixing the image after the printing step", it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." (see MPEP 2144.01) In the instant case, one of ordinary skill in the art would view that the "fixing step" could be meant to represent cooling or freezing to a specific temperature in order to keep the ice cream from melting.

Claim 1 has been amended to include the subject matter of claim 2, thus the applicant addresses the rejection of claim 2. Willcocks and Young, alone or in combination, fail to disclose or make obvious "providing a consistency-maintaining food product having a gravity flowability, and applying a jettable media to the food product..., and after applying the media, processing the food product to reduce the gravity flowability," as recited in amended claim 1. Rather, Willcocks and Young only contemplate printing on foods in their final state without changing the state after printing. Willcocks describes printing on solid foods like "chocolate,

cookies, M&M's-type candy or other sugar shell candy, or hard candy, jelly beans, starch-based, savory snacks, and gelatin-based gummi and soft candies. Even ice creams and pet food are within the scope of the invention.” (Willcocks, p. 20, lines 12-16) Young discloses printing on other edible substrates, such as “royal icing, gum paste, sugar paste, fresh cream, cover paste, ice cream, butter cream, water, rice paper, gelatine, marzipan, fondant, American frosting...” (Young, col. 6, lines 7-10) Nowhere did either reference mention or suggest that after applying the media, processing the food product to reduce the gravity flowability. It can only be inferred that the edible substrates in Willcocks and Young remain in the same state before and after printing.

The examiner states that “Willcocks et al. do teach that the image is treated by ‘drying or fixing the image after the printing step’, (clm. 20) and further disclose the use of ice cream as the edible substrate” and that “one of ordinary skill in the art would view that the ‘fixing step’ could be meant to represent cooling or freezing to a specific temperature in order to keep the ice cream from melting.” This inference is not supported by the specification in Willcocks. Willcocks describes drying or fixing the image with reference to the *ink droplets* not to the *food product*. For example, Willcocks explains that “[a]pplying very low humidity gas or air will enhance the drying rate of the *ink droplets* and can be employed effectively with the multi-pass printing embodiment.” (Willcocks, p. 22, lines 28-31, emphasis added) “Fixing an image” refers to the *ink droplets* and does not include processing the *food product* to reduce the gravity flowability.

Not only does “fixing the image” not refer to the food product, but melting ice cream is not “a consistency-maintaining food product” as required by claim 1. A consistency-maintaining food product includes, for example, a food product with a stable consistency that exhibits a substantially constant gravity flowability or density. (specification, p. 6, lines 22-26) Melting ice cream is not a consistency-maintaining food product because it has various consistencies, for example, portions of the ice cream are solid while other portions are melted in a liquid state. On the other hand, a consistency-maintaining food product can include ice cream in a slurry state, prior to being frozen, when the ice cream as a whole has a stable liquid consistency.

Accordingly, amended claim 1 is patentable over Willcocks and Young, alone or in combination, because they fail to disclose or make obvious “providing a consistency-maintaining

food product having a gravity flowability, and applying a jettable media to the food product..., and after applying the media, processing the food product to reduce the gravity flowability."

With regard to claims 26, 31, 33, and 34 Willcocks et al. do not teach a value in terms of the amount of image bleed, which directly affects the resolution of the image. The degree that an image bleeds is dependant upon different factors, such as the surface characteristics of the substrate and the media used, as well as the amount of time it takes the image to dry after being applied. In addition, Willcocks et al. teach an ink composition, which includes alcohol for its art recognized and applicant's intended function of reducing the bleed of the ink once applied to the substrate. One of ordinary skill in the art would have been motivated to combine the teaching of Willcocks et al. and Young and recite an image bleed value in order to ensure that the desired image resolution is achieved as is desired by both Willcocks et al. and Young. Therefore since Willcocks et al. teach that alcohol may be included in the media for its art recognized and applicant's intended function of achieving a desired resolution, and since the referenced method and materials meet those of the instant claims, it would be expected that the resulting product, an edible substrate with an image applied, would thus meet the limitations of the claims, as it would not have involved an inventive step for one of ordinary skill in the art to have selected a specific "image bleed" value for use in the invention as disclosed since both Willcocks and Young teach high resolution images where the image bleed value directly affects the overall resolution of the image as a function of the different factors described above.

In response to applicant's argument neither Willcocks nor Young teach the desired image bleed it is noted that applicant has not provided evidence or convincing arguments to support their position, other than to simply disagree with the position of the Office where one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). However as was clearly set forth in the previous Office action the degree that an image bleeds is dependant upon different factors, such as the surface characteristics of the substrate and the media used, as well as the amount of time it takes the image to dry after being applied. In addition, Willcocks et al. teach an ink composition, which includes alcohol for its art recognized and applicant's intended function of reducing the bleed of the ink once applied to the substrate, where Willcocks et al. further teach the addition of alcohol to the media composition as part of the carrier so that the image will dry quickly once printed, (pg. 28 line 24+) and an image resolution of 200 dpi after the image has been applied to the edible substrate using an ink jet printer. Therefore since Willcocks et al. teach that alcohol may be included in the media for its art recognized and applicant's intended function of achieving a desired resolution, and since the referenced method and materials meet those of the instant claims, it would be expected that the resulting product, an edible substrate with an image applied, would thus meet the limitations of the claims, as it would not have involved an inventive step for one of ordinary skill in the art to have selected a specific "image bleed" value for use in the invention as disclosed since both Willcocks and Young teach high resolution images where the image bleed value directly affects the overall resolution of the image as a function of the different factors described above.

Claim 27 is patentable over Willcocks in view of Young for at least the same reason as amended claim 1. Specifically, Willcocks and Young fail to disclose or make obvious, "providing a food product having a gravity flowability, applying media to the food product...,

and after applying the media, processing the food product to decrease the gravity flowability." Furthermore, Willcocks and Young, alone or in combination, fail to disclose or make obvious "the media on the food product having a lateral image bleed of about 10% or less in 30 minutes."

The examiner argues that "Willcocks et al. teach an ink composition, which includes alcohol for its art recognized and applicant's intended function of reducing the bleed of the ink once applied to the substrate." When printing on a solid surface, alcohol in an ink composition can speed the dry time of an image because the alcohol evaporates quickly and the colorants remain on the surface. However, when printing on a food product having a gravity flowability, even though the alcohol may evaporate, the colorants do not necessarily remain in place, but may diffuse and bleed into the flowable food product. Thus, while printing with an ink composition including an alcohol may affect the image bleed on a solid surface, this is not necessarily true when printing on a food product having a gravity flowability.

The examiner further argues that Willcocks teaches "an image resolution of 200 dpi after the image has been applied to the edible substrate using an ink jet printer. Therefore since Willcocks et al. teach that alcohol may be included in the media for its art recognized and applicant's intended function of achieving a desired resolution, and since the referenced method and materials meet those of the instant claims, it would be expected that the resulting product, an edible substrate with an image applied, would thus meet the limitations of the claims, as it would not have involved an inventive step for one of ordinary skill in the art to have selected a specific 'image bleed' value." This conclusion is incorrect because achieving a particular image resolution does not necessarily mean achieving a particular image bleed value. For example, an image can have an image resolution of 200 dpi and not have a lateral image bleed of about 10% or less in 30 minutes. Again the examiner has inferred more than is supported by the cited references.

Merely because a reference discusses using an alcohol to speed up the dry time of an image and that the image can have an image resolution of 200 dpi does not automatically mean that that the image will have a lateral image bleed of about 10% or less in 30 minutes on a food product having a gravity flowability. Accordingly, claim 27 is patentable over Willcocks in view of Young.

For at least the same reason as claim 27, claim 31 is patentable over Willcocks in view of Young. Specifically, neither reference discloses or makes obvious "a consistency-maintaining edible substrate having a gravity flowability, the substance including an image visible from its surface, the image defined by a predetermined series of drops having... *a lateral image bleed of about 10% or less in about 10 minutes.*" (emphasis added)

The Applicant has deleted "the media having a viscosity greater than a viscosity of the food product at a temperature of the food product during application of the media" from claim 1 and has included this subject matter in amended claim 2.

All of the dependent claims are patentable for at least similar reasons as those for the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Please apply the \$460.00 Petition for Extension of Time Fee and any other charges or credits to deposit account 06-1050 referencing attorney docket 09991-133001.

Respectfully submitted,



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